Inspection Report For Well: UT20736 - 04363

U.S. Environmental Protection Agency
Underground Injection Control Program, 8ENF-T
999 18th Street, Suite 300, Denver, CO 80202-2466
This form was printed on 9/24/2013

INSPECTOR(S): Lead: Roberts, Sarah — Date: ~~10~~ 12/10/2013
Others: Ajayi, Christopher — Time: 10:55 (am) / pm

OPERATOR (only if different): _____

REPRESENTATIVE(S): Chad Stevinson

PRE-INSPECTION REVIEW

Petroglyph Operating Company, Inc

Well Name:	Ute Tribal 21-03		
Well Type:	Enhanced Recovery (2R)		
Operating Status:	AC (ACTIVE) as of 12/31/2002		
Oil Field:	Antelope Creek (Duchesne)		
Location:	NENW S21 T5S R3W		
Indian Country:	X, Uintah and Ouray		
Last Inspection:	8/28/2012	***Allowable Inj Pressure:***	2451 /
Last MIT:	Pass 11/9/2012	***Annulus Pressure From Last MIT:***	1820

BLACK = POSSIBLE VIOLATION GREY = DATA MISSING

INSPECTION TYPE: (Select One)
- ☐ Construction / Workover
- ☐ Plugging
- ☐ Post-Closure
- ☐ Response to Complaint
- ☒ Routine
- ☐ Witness MIT
- ☐ Other

ICIS Entered
Date 12/20/13
Initials DB

OBSERVED VALUES:

Tubing Gauge:	☒ Yes ☐ No	Pressure: U: 1486 / L: ____ psig	Gauge Range: Scada psig	Gauge Owner:	☐ EPA ☒ Operator
Annulus Gauge:	☒ Yes ☐ No	Pressure: 0 psig	Gauge Range: Opened psig	Gauge Owner:	☒ EPA ☐ Operator
Bradenhead Gauge:	☐ Yes ☐ No	Pressure: ____ psig	Gauge Range: ____ psig	Gauge Owner:	☐ EPA ☐ Operator
Pump Gauge:	☐ Yes ☐ No	Pressure: ____ psig	Gauge Range: ____ psig	Gauge Owner:	☐ EPA ☐ Operator

Operating Status: (Select One)
☒ Active ☐ Being Reworked ☐ Not Injecting ☐ Production ☐ Plugged and Abandoned ☐ Under Construction

See page 2 for photos, comments, and site conditions.

U2 Entered
Date 12/17/13
Initial JR

GREEN | BLUE | RED
1

Inspection Report For Well: UT20736 - 04363 (PAGE 2)

PHOTOGRAPHS: ☐ Yes ☒ No List of photos taken: _____

Comments and site conditions observed during inspection: _____

GPS: GPS File ID: _____

Signature of EPA Inspector(s): _____

☐ Data Entry ☐ Compliance Staff ☐ Hard Copy Filing

NOTICE OF INSPECTION

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII, 999 18TH STREET - SUITE 500
DENVER, COLORADO 80202-2405

Date: 12/16/13
Hour: 8:00a

Notice of inspection is hereby given according to Section 1445(b) of the Safe Drinking Water Act (42 U.S.C. §300f et seq.).

Firm Name: Petroglyph Operating, Inc.

Firm Address: Roosevelt, UT, Antelope Creek Oil Field

REASON FOR INSPECTION:

For the purpose of inspecting records, files, papers, processes, controls and facilities, and obtaining samples to determine whether the person subject to an applicable underground injection control program has acted or is acting in compliance with the Safe Drinking Water Act and any applicable condition of permit or rule authorization.

SECTION 1445(b) of the SAFE DRINKING WATER ACT is quoted below:

Section 1445(b)(1): Except as provided in Paragraph (2), the Administrator, or representatives of the Administrator duly designated by him, upon presenting appropriate credentials, and a written notice to any supplier of water or other person subject to (a), or person subject (A) a national primary drinking water regulation prescribed under Section 1412(B) an applicable Underground Injection Control Program, or (C) any requirement to monitor an unregulated contaminant pursuant to subsection (a), or person in charge of any of the property of such supplier or other person referred to in clause (A), (B), or (C), is authorized to enter any establishment, ... facility, or other property of such supplier or other person in order to determine whether such supplier or other person has acted or is acting in compliance with this title, including for this purpose, inspection, at reasonable times, of records, files, papers, processes, controls, and facilities, or in order to test any feature of a public water system, including its raw water source. The Administrator or the Comptroller General (or any representative designated by either) shall have access for the purpose of audit and examination to any records, reports, or information of a grantee which are required to be maintained under subsection (a) or which are pertinent to any financial assistance under this title.

Sarah Roberts
Inspector's Name & Title (Print)

Inspector's Signature

EPA R8 3560-1 (8-89)

Original - Regional Office Copy
Yellow Copy - Operator Copy

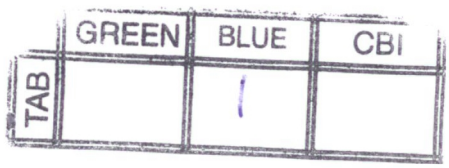
UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

Ref: 8ENF-UFO CONCURRENCE COPY

CERTIFIED MAIL 7009-3410-0000-2599-7945
RETURN RECEIPT REQUESTED

Mr. Les Farnsworth, District Supervisor
Petroglyph Operating Company, Inc.
4116 W 3000 S Ioka Lane
P.O. Box 607
Roosevelt, UT 84066

Re: Underground Injection Control (UIC)
Notice of Violation:
Loss of Mechanical Integrity
Ute Tribal 21-03 Well
EPA Well ID# UT207036-04363
API # 43-013-31752
Antelope Creek Oil Field
Duchesne County, UT



Dear Mr. Farnsworth:

On August 1, 2013, the Environmental Protection Agency (EPA) learned that the Petroglyph Operating Company, Inc. injection well referenced above lost mechanical integrity on July 29, 2013. Pursuant to the above-referenced UIC Permit and Title 40 of the Code of Federal Regulations Section 144.51(q)(1) (40 C.F.R. §144.51(q)(1)), you must establish and maintain mechanical integrity. A loss of mechanical integrity is a violation of this requirement.

Pursuant to the above-referenced UIC Permit and the regulations at 40 C.F.R. §144.51(q)(2), you must immediately cease injection into this well. Before injection may resume, you must demonstrate that the well has mechanical integrity by passing a mechanical integrity test (MIT). You must also receive written authorization from the EPA.

Within thirty (30) days of receipt of this letter, please submit a letter describing what action you intend to take regarding the well, including a time frame in which you anticipate the work to be completed. It is expected that you will return this well to compliance within ninety (90) days of the loss of mechanical integrity.

If you choose to plug and abandon this well, a plugging and abandonment plan must be submitted to EPA for approval prior to the plugging operation.

8ENF-UFO 8/1/13

8/6/13

Failure to comply with the UIC regulations found at 40 C.F.R. Parts 144 through 148 constitutes one or more violations of the Safe Drinking Water Act, 42 U.S.C. §300h. Such non-compliance may subject you to formal enforcement by EPA, as codified at 40 C.F.R. Part 22.

If you have any questions concerning this letter, you may contact Sarah Roberts at (303) 312-7056. Please direct all correspondence to the attention of Sarah Roberts at Mail Code 8ENF-UFO.

Sincerely,

Darcy O'Connor, Director
UIC/FIFRA/OPA Technical Enforcement Programs

cc:

Irene Cuch, Jr., Chairwoman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Ronald Wopsock, Vice-Chairman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Reannin Tapoof, Assistant
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Stewart Pike, Councilman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Richard Jenks, Councilman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Frances Poowegup, Councilwoman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Phillip Chimburas, Councilman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Manuel Myore, Director of Energy,
Minerals and Air Programs
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, Utah 84026

Mike Natchees, Environmental
Coordinator
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, Utah 84026

John Rogers
Utah Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114

bcc: Randy Brown (8P-TA)

bcc: Randy Brown (8P-TA)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

AUG 0 8 2013

Ref: 8ENF-UFO

CERTIFIED MAIL 7009-3410-0000-2599-7945
RETURN RECEIPT REQUESTED

Mr. Les Farnsworth, District Supervisor
Petroglyph Operating Company, Inc.
4116 W 3000 S Ioka Lane
P.O. Box 607
Roosevelt, UT 84066

Re: Underground Injection Control (UIC)
Notice of Violation:
Loss of Mechanical Integrity
Ute Tribal 21-03 Well
EPA Well ID# UT207036-04363
API # 43-013-31752
Antelope Creek Oil Field
Duchesne County, UT

Dear Mr. Farnsworth:

On August 1, 2013, the Environmental Protection Agency (EPA) learned that the Petroglyph Operating Company, Inc. injection well referenced above lost mechanical integrity on July 29, 2013. Pursuant to the above-referenced UIC Permit and Title 40 of the Code of Federal Regulations Section 144.51(q)(1) (40 C.F.R. §144.51(q)(1)), you must establish and maintain mechanical integrity. A loss of mechanical integrity is a violation of this requirement.

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If you choose to plug and abandon this well, a plugging and abandonment plan must be submitted to EPA for approval prior to the plugging operation.

SENDER: COMPLETE THIS SECTION

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
- Print your name and address on the reverse so that we can return the card to you.
- Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

AUG 9 2013

Mr. Les Farnsworth, District Supervisor
Petroglyph Operating Company, Inc.
4116 W 3000 S Ioka Lane
P.O. Box 607
Roosevelt, UT 84066

COMPLETE THIS SECTION ON DELIVERY

A. Signature
X Rodrigo Jurado ☐ Agent ☐ Addressee

B. Received by (Printed Name) Rodrigo Jurado

C. Date of Delivery

D. Is delivery address different from item 1? ☐ Yes
If YES, enter delivery address below: ☐ No

ROOSEVELT UT 84066
AUG 12 2013
USPS

3. Service Type
☐ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

2. Article Number (Transfer from service label) 7009 3410 0000 2599 7945

PS Form 3811, February 2004 Domestic Return Receipt 102595-02-M-1540

7009 3410 0000 2599 7945

U.S. Postal Service™
CERTIFIED MAIL™ RECEIPT
(Domestic Mail Only; No Insurance Coverage Provided)

For delivery information visit our website at www.usps.com®

OFFICIAL USE

Postage $
Certified Fee
Return Receipt Fee (Endorsement Required)
Restricted Delivery Fee (Endr
Postmark Here

To Mr. Les Farnsworth, District Supervisor
Petroglyph Operating Company, Inc.
Sent 4116 W 3000 S Ioka Lane
Street or P.O. P.O. Box 607
City, State, Zip+4 Roosevelt, UT 84066

PS Form 3800, August 2006 See Reverse for Instructions

OMB No. 2040-0042 Approval Expires 11/30/2014

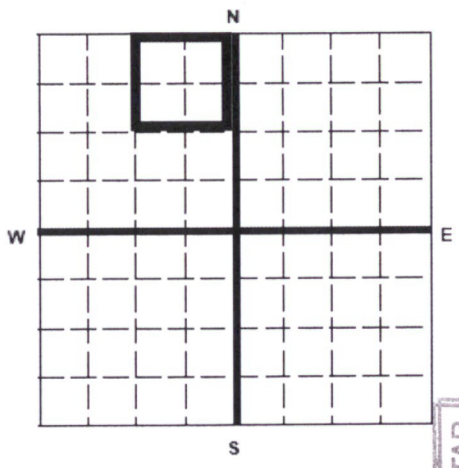
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah, 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-04363

Surface Location Description
___ 1/4 of ___ 1/4 of NE 1/4 of NW 1/4 of Section 21 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 660 ft. frm (N/S) N Line of quarter section
and 1980 ft. from (E/W) W Line of quarter section.

U2 Entered
Date 4/4/17
Initial JB

WELL ACTIVITY
- [ ] Brine Disposal
- [X] Enhanced Recovery
- [ ] Hydrocarbon Storage

TYPE OF PERMIT
- [ ] Individual
- [X] Area

Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 21-03

GREEN BLUE CBL TAB 2

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING – CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	16	1864	1890	1394		0	0
February	16	1923	1937	1712		0	0
March	16	1908	1915	1555		0	0
April	16	1907	1932	1527		0	0
May	16	1915	1935	1663		0	0
June	16	1872	1904	1343		0	0
July	16	1887	1905	1430		0	0
August	16	1876	1893	1409		0	0
September	16	1874	1894	1456		0	0
October	16	1901	1916	1827		0	0
November	16	1839	1890	1073		0	0
December	16	1876	1896	1863		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		03/21/2017

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

multi-chem®
A HALLIBURTON SERVICE

Units of Measurement: **Standard**

Water Analysis Report

Production Company: **PETROGLYPH OPERATING CO INC - EBUS**
Well Name: **UTE TRIBAL 21-03, TT, DUCHESNE**
Sample Point: **Well Head**
Sample Date: **1/6/2017**
Sample ID: **WA-345289**

Sales Rep: **James Patry**
Lab Tech: **Kaitlyn Natelli**

Scaling potential predicted using ScaleSoftPitzer from Brine Chemistry Consortium (Rice University)

Sample Specifics

Test Date:	1/25/2017
System Temperature 1 (°F):	300
System Pressure 1 (psig):	2000
System Temperature 2 (°F):	130
System Pressure 2 (psig):	50
Calculated Density (g/ml):	1.0045
pH:	8.70
Calculated TDS (mg/L):	10503.10
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	25.00
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	3575.51	Chloride (Cl):	4000.00
Potassium (K):	25.28	Sulfate (SO_4):	70.00
Magnesium (Mg):	12.44	Bicarbonate (HCO_3):	2745.00
Calcium (Ca):	29.07	Carbonate (CO_3):	
Strontium (Sr):	4.77	Hydroxide(HO):	
Barium (Ba):	2.10	Acetic Acid (CH_3COO)	
Iron (Fe):	10.37	Propionic Acid (C_2H_5COO)	
Zinc (Zn):	3.49	Butanoic Acid (C_3H_7COO)	
Lead (Pb):	0.00	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Ammonia NH_3:		Fluoride (F):	
Manganese (Mn):	0.17	Bromine (Br):	
Aluminum (Al):	0.99	Silica (SiO_2):	24.90
Lithium (Li):	3.09	Calcium Carbonate ($CaCO_3$):	
Boron (B):	5.22	Phosphates (PO_4):	5.39
Silicon (Si):	11.64	Oxygen (O_2):	

Notes:

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum $CaSO4 \cdot 2H2O$		Celestite $SrSO4$		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	1.77	24.88	0.45	0.80	4.68	5.72	3.46	7.54	0.00	0.00	0.00	0.00	0.00	0.00	11.70	1.82
149.00	267.00	1.82	24.94	0.35	0.69	4.62	5.72	3.55	7.54	0.00	0.00	0.00	0.00	0.00	0.00	11.44	1.82
168.00	483.00	1.89	25.01	0.28	0.58	4.58	5.72	3.64	7.54	0.00	0.00	0.00	0.00	0.00	0.00	11.20	1.82
187.00	700.00	1.96	25.08	0.22	0.49	4.57	5.72	3.72	7.54	0.00	0.00	0.00	0.00	0.00	0.00	11.00	1.82
206.00	917.00	2.04	25.14	0.18	0.41	4.57	5.72	3.79	7.54	0.00	0.00	0.00	0.00	0.00	0.00	10.82	1.82
224.00	1133.00	2.13	25.20	0.15	0.36	4.60	5.72	3.87	7.54	0.00	0.00	0.00	0.00	0.00	0.00	10.66	1.82
243.00	1350.00	2.23	25.25	0.13	0.33	4.64	5.72	3.94	7.54	0.00	0.00	0.00	0.00	0.00	0.00	10.52	1.82
262.00	1567.00	2.33	25.29	0.13	0.32	4.69	5.72	4.00	7.54	0.00	0.00	0.00	0.00	0.00	0.00	10.40	1.82
281.00	1783.00	2.43	25.33	0.13	0.33	4.76	5.72	4.05	7.54	0.00	0.00	0.00	0.00	0.00	0.00	10.30	1.82
300.00	2000.00	2.54	25.36	0.14	0.35	4.83	5.72	4.10	7.54	0.00	0.00	0.00	0.00	0.00	0.00	10.20	1.82

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

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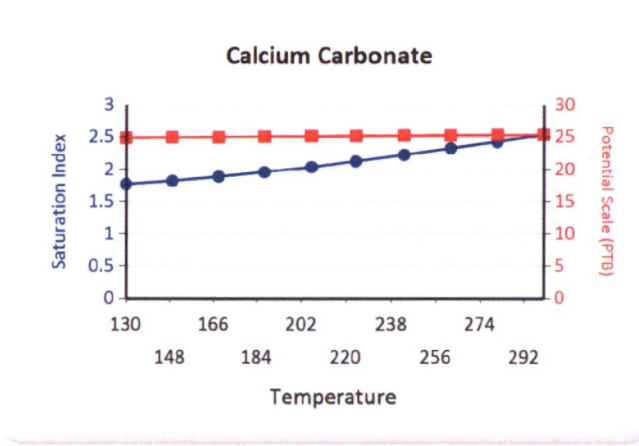
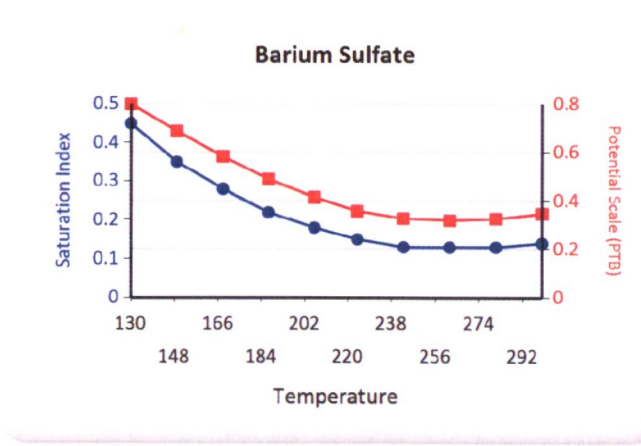
Water Analysis Report

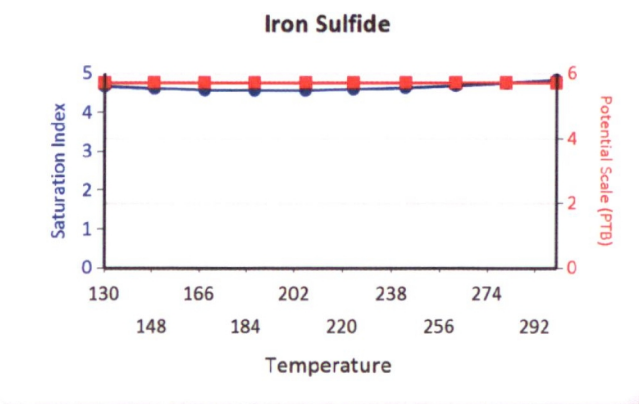
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
130.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	2.59	2.34	0.00	0.00	5.03	23.59	2.86	26.19	12.84	8.07
149.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	2.78	2.34	0.00	0.00	5.73	24.12	3.23	27.97	13.25	8.07
168.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	2.97	2.34	0.00	0.00	6.44	24.44	3.62	29.55	13.69	8.07
187.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	3.13	2.34	0.00	0.00	7.14	24.62	4.00	30.81	14.15	8.07
206.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	3.28	2.34	0.00	0.00	7.82	24.72	4.38	31.76	14.61	8.07
224.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	3.41	2.34	0.00	0.00	8.49	24.78	4.76	32.43	15.07	8.07
243.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	3.52	2.34	0.00	0.00	9.14	24.81	5.13	32.89	15.53	8.07
262.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	3.62	2.34	0.00	0.00	9.77	24.83	5.50	33.18	15.99	8.07
281.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	3.71	2.34	0.00	0.00	10.38	24.84	5.85	33.36	16.43	8.07
300.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	3.77	2.34	0.00	0.00	10.95	24.85	6.19	33.47	16.86	8.07

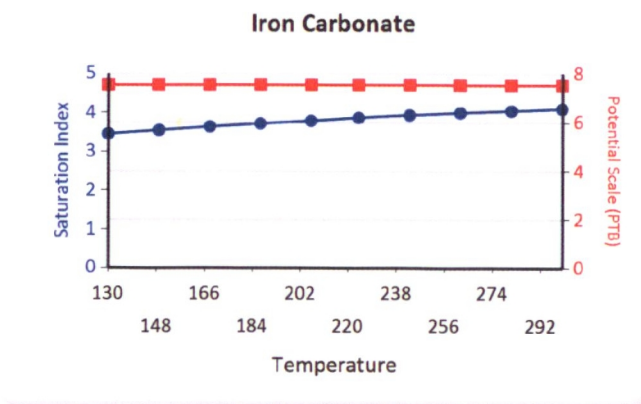
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Mg Silicate Ca Mg Silicate Fe Silicate

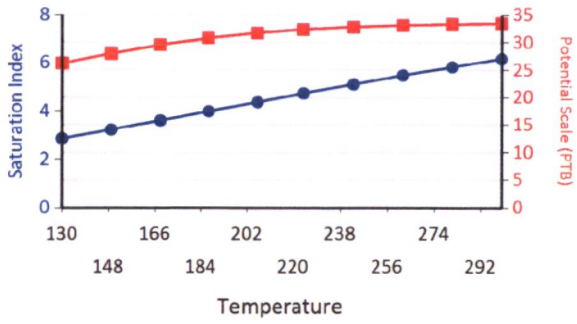




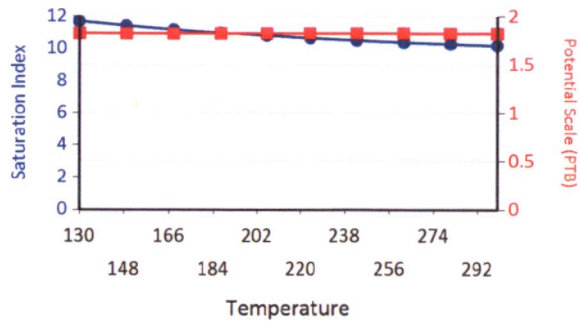




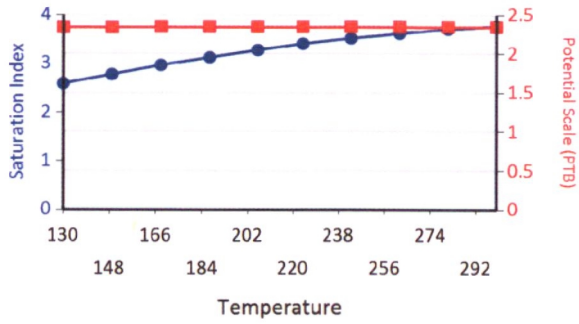
Ca Mg Silicate



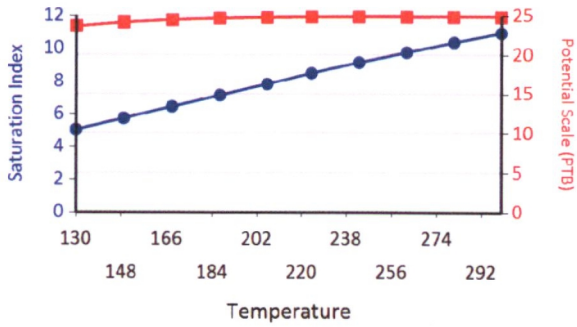
Zinc Sulfide



Zinc Carbonate



Mg Silicate



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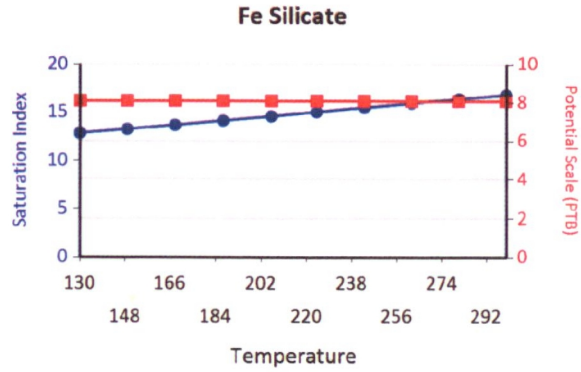
Water Analysis Report



OMB No. 2040-0042 Approval Expires 11/30/2014

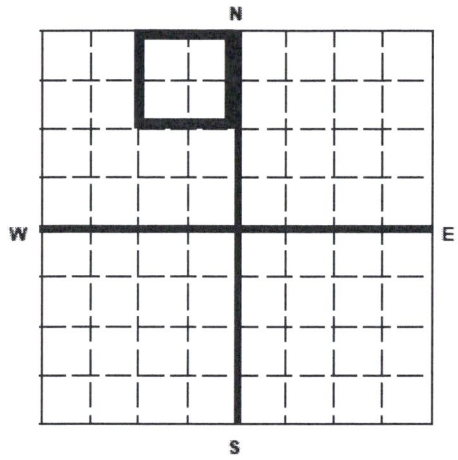
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah, 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-~~04434~~ 04363

Surface Location Description
___ 1/4 of ___ 1/4 of NE 1/4 of NW 1/4 of Section 21 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 660 ft. frm (N/S) N Line of quarter section
and 1980 ft. from (E/W) W Line of quarter section. U2 Entered

WELL ACTIVITY
- [ ] Brine Disposal
- [X] Enhanced Recovery
- [ ] Hydrocarbon Storage

TYPE OF PERMIT
- [ ] Individual
- [X] Area

Number of Wells 111

Date 3/2/16
Initial DZ

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 21-03

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING – CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	15	1927	1927	1303		0	0
February	15	1909	1972	1609		0	0
March	15	2035	2122	1664		0	0
April	15	1896	2150	1475		0	0
May	15	1914	1946	1512		0	0
June	15	1924	1924	1452		0	0
July	15	1947	1986	1628		0	0
August	15	1953	1953	1382		0	0
September	15	2018	2018	1212		0	0
October	15	1970	2014	991		0	0
November	15	1870	1942	1311		0	0
December	15	1876	1918	1457		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibliity of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		02/08/2016

EPA Form 7520-11 (Rev. 12-11)

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TAB 2

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

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Units of Measurement: **Standard**

Water Analysis Report

Production Company:	**PETROGLYPH OPERATING CO INC - EBUS**	Sales Rep:	**James Patry**
Well Name:	**UTE TRIBAL 21-03,DUCHESNE**	Lab Tech:	**Michele Pike**
Sample Point:	**Well Head**		
Sample Date:	**1/6/2016**		
Sample ID:	**WA-327670**		

Scaling potential predicted using ScaleSoftPitzer from Brine Chemistry Consortium (Rice University)

Sample Specifics

Test Date:	1/13/2016
System Temperature 1 (°F):	60
System Pressure 1 (psig):	2000
System Temperature 2 (°F):	180
System Pressure 2 (psig):	50
Calculated Density (g/ml):	1.0001
pH:	6.80
Calculated TDS (mg/L):	4010.47
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	80.00
H_2S in Gas (%):	
H2S in Water (mg/L):	0.00
Tot. SuspendedSolids(mg/L):	
Corrosivity(LanglierSat.Indx)	0.00
Alkalinity:	

Analysis @ Properties in Sample Specifics

Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	1047.39	Chloride (Cl):	1500.00
Potassium (K):	23.32	Sulfate (SO_4):	550.00
Magnesium (Mg):	82.95	Bicarbonate (HCO_3):	561.00
Calcium (Ca):	166.82	Carbonate (CO_3):	
Strontium (Sr):	4.82	Acetic Acid (CH_3COO)	
Barium (Ba):	0.73	Propionic Acid (C_2H_5COO)	
Iron (Fe):	35.93	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	7.43	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.50	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.25	Silica (SiO_2):	29.33
Aluminum (Al):	0.32	Calcium Carbonate ($CaCO_3$):	
Lithium (Li):	5.31	Phosphates (PO_4):	78.57
Boron (B):	25.69	Oxygen (O_2):	
Silicon (Si):	13.71		

Notes:

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.58	43.39	0.87	0.38	0.00	0.00	2.04	25.73	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
167.00	267.00	0.41	31.26	0.89	0.38	0.00	0.00	1.84	25.52	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	483.00	0.30	23.18	0.92	0.38	0.00	0.00	1.71	25.29	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	700.00	0.20	15.29	0.95	0.39	0.00	0.00	1.57	24.99	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
127.00	917.00	0.10	7.69	1.00	0.39	0.00	0.00	1.43	24.58	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	1133.00	0.01	0.48	1.07	0.40	0.00	0.00	1.30	24.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	1350.00	0.00	0.00	1.14	0.40	0.00	0.00	1.17	23.34	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
87.00	1567.00	0.00	0.00	1.23	0.41	0.00	0.00	1.04	22.45	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	1783.00	0.00	0.00	1.34	0.41	0.00	0.00	0.91	21.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
60.00	2000.00	0.00	0.00	1.47	0.42	0.00	0.00	0.79	19.93	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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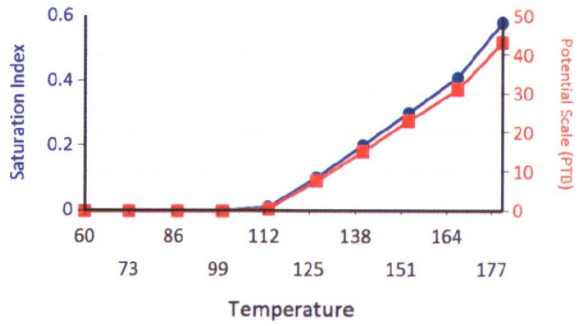
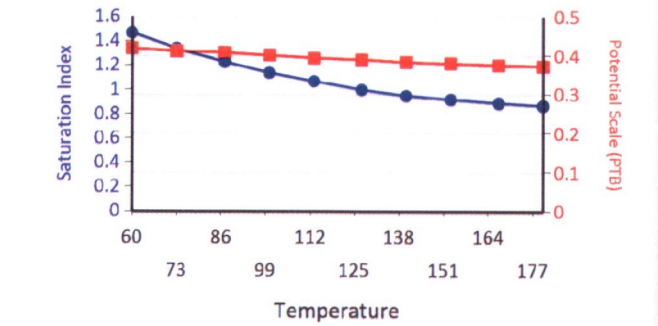
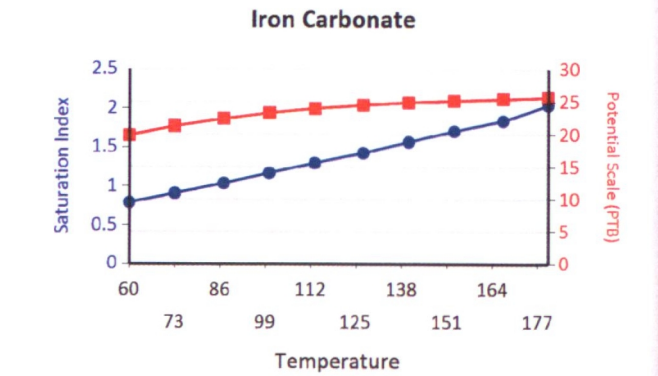
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
180.00	50.00	0.00	0.00	0.00	0.00	0.00	0.00	1.39	4.78	0.00	0.00	0.09	1.35	0.00	0.00	6.14	27.00
167.00	267.00	0.00	0.00	0.00	0.00	0.00	0.00	1.15	4.61	0.00	0.00	0.00	0.00	0.00	0.00	5.12	25.96
153.00	483.00	0.00	0.00	0.00	0.00	0.00	0.00	0.96	4.40	0.00	0.00	0.00	0.00	0.00	0.00	4.44	24.79
140.00	700.00	0.00	0.00	0.00	0.00	0.00	0.00	0.75	4.05	0.00	0.00	0.00	0.00	0.00	0.00	3.78	23.12
127.00	917.00	0.00	0.00	0.00	0.00	0.00	0.00	0.54	3.47	0.00	0.00	0.00	0.00	0.00	0.00	3.13	20.84
113.00	1133.00	0.00	0.00	0.00	0.00	0.00	0.00	0.32	2.50	0.00	0.00	0.00	0.00	0.00	0.00	2.50	17.94
100.00	1350.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	0.88	0.00	0.00	0.00	0.00	0.00	0.00	1.89	14.43
87.00	1567.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.29	10.41
73.00	1783.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.71	6.01
60.00	2000.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.15	1.35

These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Barium Sulfate Iron Carbonate Fe Silicate







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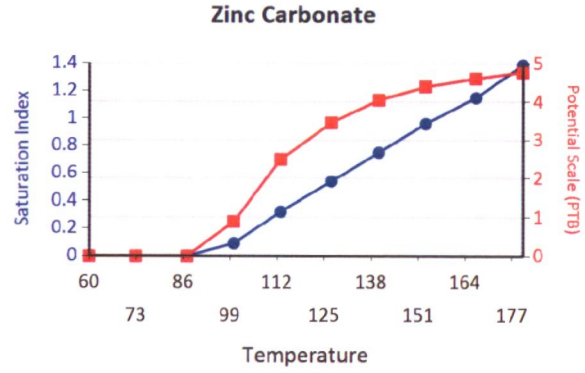
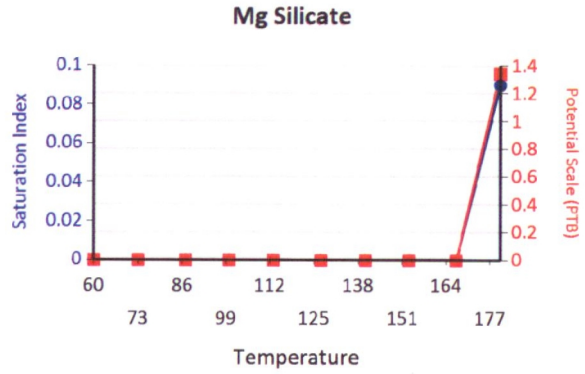
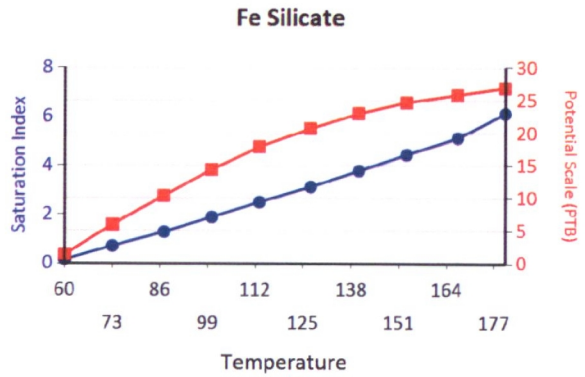






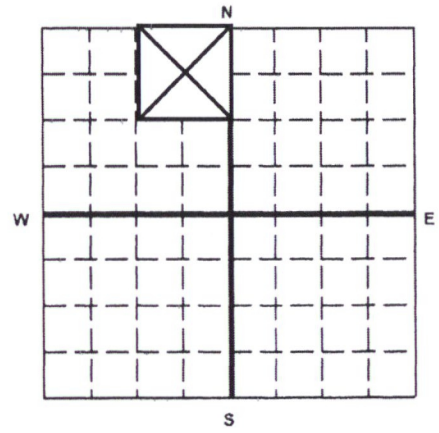
OMB No. 2040-0042 Approval Expires 12/31/2011

United States Environmental Protection Agency
Washington, DC 20460

EPA ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee	Name and Address of Surface Owner
Petroglyph Operating Company, Inc. 2258 P.O. Box 7608 Boise, Idaho 83709	Ute Indian Tribe P.O. Box 70 Ft. Duchesne, Utah 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-04363

Surface Location Description

___ 1/4 of ___ 1/4 of NE 1/4 of NW 1/4 of Section 21 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 660 ft. frm (N/S) N Line of quarter section and 1980 ft. from (E/W) W Line of quarter section.

WELL ACTIVITY	TYPE OF PERMIT
☐ Brine Disposal	☐ Individual
☒ Enhanced Recovery	☒ Area
☐ Hydrocarbon Storage	Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 21-03

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	14	2086	2088	2181		0	0
February	14	2015	1982	1924		0	0
March	14	2000	1932	1963		0	0
April	14	1935	1950	2108		0	0
May	14	1982	1972	1906		0	0
June	14	1963	1939	1738		0	0
July	14	1986	2019	1185		0	0
August	14	2016	2016	1484		0	0
September	14	2021	1924	1439		0	0
October	14	2003	2119	1738		0	0
November	14	2039	2116	1526		0	0
December	14	2030	2024	1548		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		2/10/2015

EPA Form 7520-11 (Rev. 12-08)

U2 Entered
Date 3/23/15
Initial GW

TAB	GREEN	BLUE	CBI
		2	

Multi-Chem Analytical Laboratory
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Vernal, UT 84078

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Units of Measurement: **Standard**

Water Analysis Report

Production Company: **PETROGLYPH**
Well Name: **Ute Tribal 21-03 Inj**
Sample Point: **Well**
Sample Date: **1/7/2015**
Sample ID: **WA-298722**

Sales Rep: **James Patry**
Lab Tech: **Gary Winegar**

Scaling potential predicted using ScaleSoftPitzer from Brine Chemistry Consortium (Rice University)

Sample Specifics	
Test Date:	1/16/2015
System Temperature 1 (°F):	160
System Pressure 1 (psig):	1300
System Temperature 2 (°F):	80
System Pressure 2 (psig):	15
Calculated Density (g/ml):	1.0046
pH:	8.50
Calculated TDS (mg/L):	11241.23
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	20.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	3098.65	Chloride (Cl):	5000.00
Potassium (K):	53.17	Sulfate (SO_4):	326.00
Magnesium (Mg):	16.40	Bicarbonate (HCO_3):	2684.00
Calcium (Ca):	27.06	Carbonate (CO_3):	
Strontium (Sr):	4.86	Acetic Acid (CH_3COO)	
Barium (Ba):	2.43	Propionic Acid (C_2H_5COO)	
Iron (Fe):	1.20	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	1.58	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.12	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.08	Silica (SiO_2):	25.68

Notes:
B=7.72 Al=0 Li=1.52

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum $CaSO_4 \cdot 2H_2O$		Celestite $SrSO_4$		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	1.53	22.71	1.52	1.41	3.77	0.66	2.10	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.92	0.82
88.00	157.00	1.53	22.70	1.44	1.40	3.68	0.66	2.14	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.73	0.82
97.00	300.00	1.55	22.73	1.36	1.38	3.62	0.66	2.18	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.57	0.82
106.00	443.00	1.56	22.77	1.29	1.37	3.57	0.66	2.22	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.41	0.82
115.00	585.00	1.58	22.80	1.23	1.36	3.52	0.66	2.26	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.26	0.82
124.00	728.00	1.60	22.84	1.17	1.35	3.48	0.66	2.30	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.13	0.82
133.00	871.00	1.62	22.88	1.11	1.34	3.45	0.66	2.34	0.87	0.00	0.00	0.00	0.00	0.00	0.00	11.00	0.82
142.00	1014.00	1.64	22.93	1.06	1.32	3.42	0.66	2.38	0.87	0.00	0.00	0.00	0.00	0.00	0.00	10.88	0.82
151.00	1157.00	1.66	22.97	1.02	1.31	3.40	0.66	2.42	0.87	0.00	0.00	0.00	0.00	0.00	0.00	10.76	0.82
160.00	1300.00	1.69	23.02	0.98	1.30	3.39	0.66	2.46	0.87	0.00	0.00	0.00	0.00	0.00	0.00	10.66	0.82

		Hemihydrate $CaSO_4 \sim 0.5H_2O$		Anhydrate $CaSO_4$		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
80.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	1.41	1.02	13.07	0.05	1.70	12.75	0.64	5.62	7.22	0.93
88.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	1.53	1.03	12.77	0.05	2.00	14.31	0.79	6.54	7.34	0.93
97.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	1.64	1.04	12.50	0.05	2.36	16.28	0.97	7.74	7.54	0.93
106.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	1.76	1.04	12.25	0.05	2.72	18.12	1.16	8.87	7.74	0.93
115.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	1.86	1.05	12.00	0.05	3.09	19.84	1.36	9.94	7.96	0.93
124.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	1.97	1.05	11.77	0.05	3.47	21.42	1.56	10.92	8.18	0.93
133.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	2.07	1.05	11.56	0.05	3.84	22.86	1.76	11.80	8.41	0.93
142.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	2.16	1.06	11.35	0.05	4.22	24.16	1.97	12.59	8.65	0.93
151.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	2.25	1.06	11.16	0.05	4.60	25.32	2.18	13.27	8.89	0.93
160.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	2.34	1.06	10.98	0.05	4.98	26.33	2.39	13.85	9.13	0.93

Multi-Chem Analytical Laboratory
1553 East Highway 40
Vernal, UT 84078

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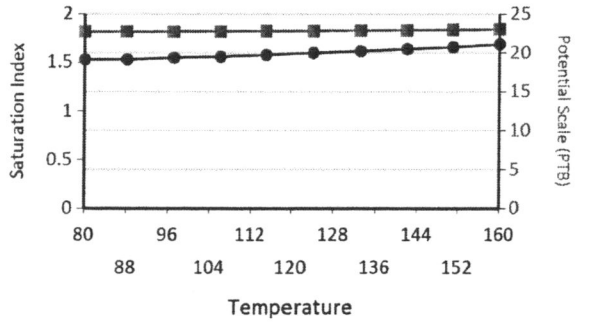
Water Analysis Report

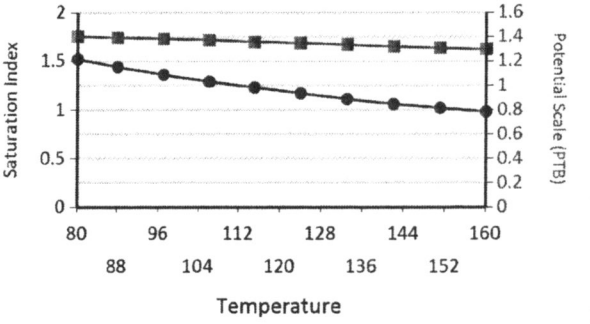
These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Sulfide Iron Carbonate Zinc Sulfide Zinc Carbonate Lead Sulfide Mg Silicate Ca Mg Silicate Fe Silicate

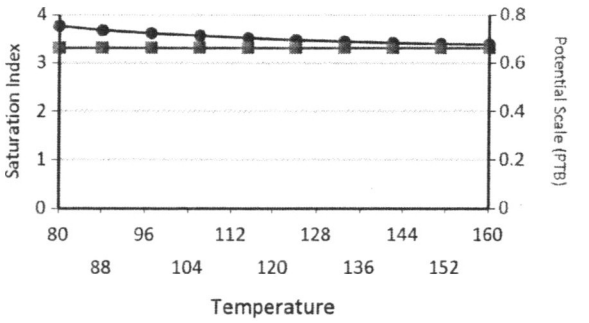
Calcium Carbonate



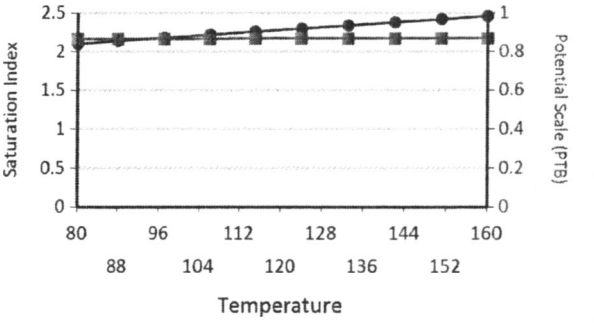
Barium Sulfate



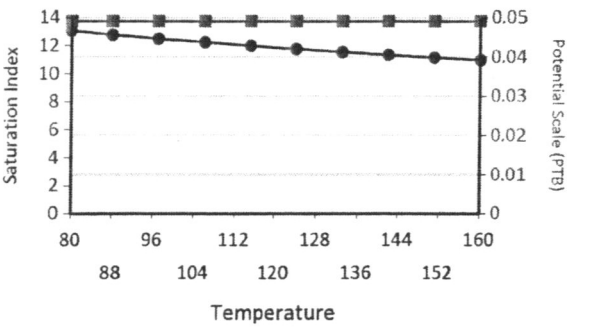
Iron Sulfide



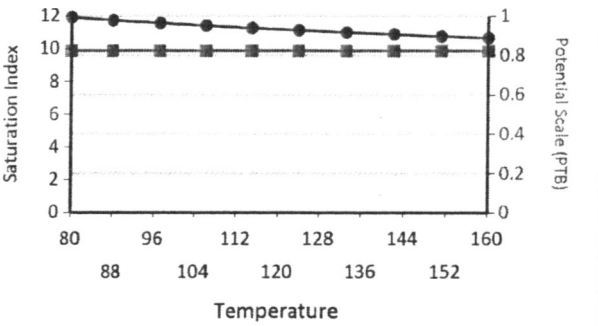
Iron Carbonate



Lead Sulfide



Zinc Sulfide



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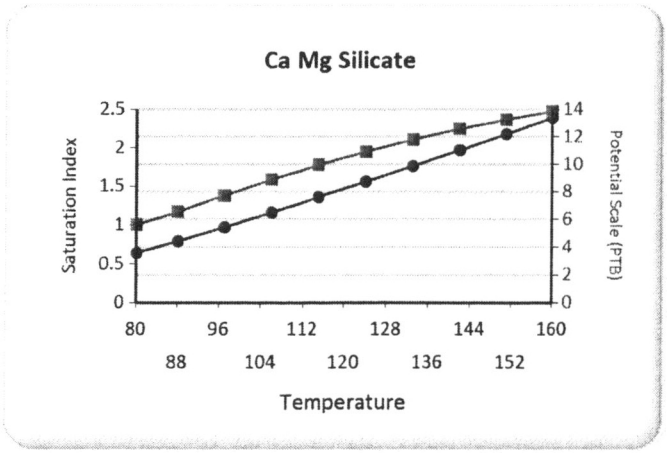
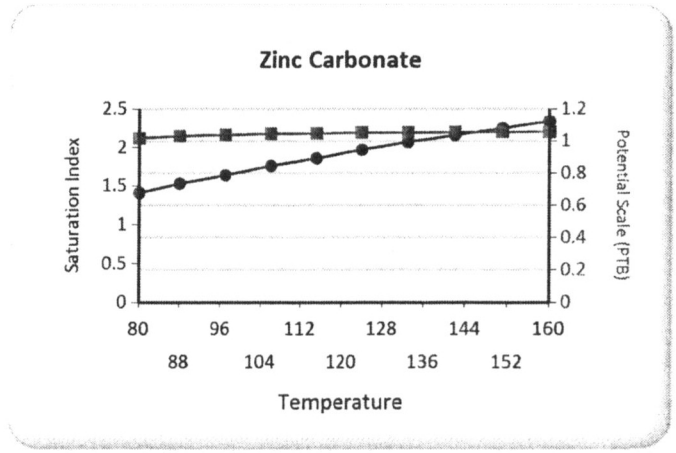
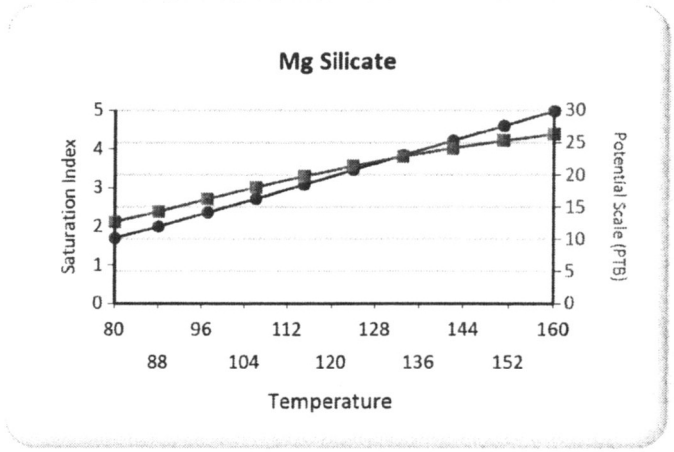
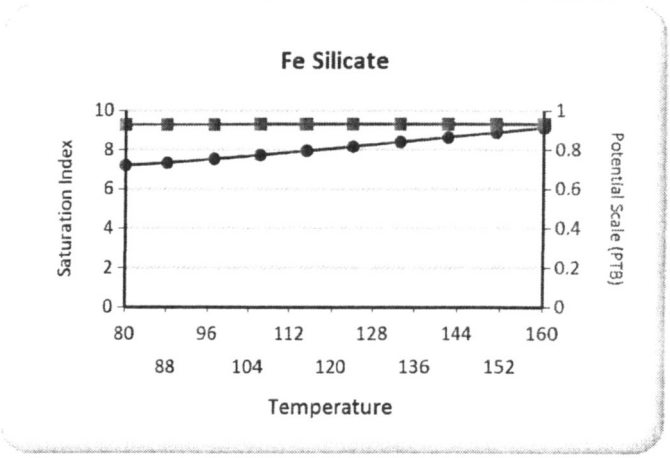








OMB No. 2040-0042 Approval Expires 12/31/2011

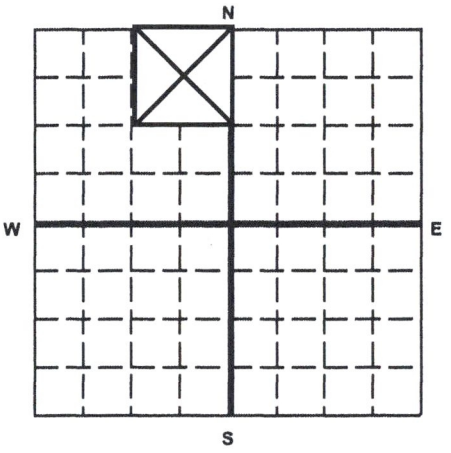
United States Environmental Protection Agency
Washington, DC 20460

ANNUAL DISPOSAL/INJECTION WELL MONITORING REPORT

Name and Address of Existing Permittee
Petroglyph Operating Company, Inc. 2258
P.O. Box 7608
Boise, Idaho 83709

Name and Address of Surface Owner
Ute Indian Tribe
P.O. Box 70
Ft. Duchesne, Utah 84026

Locate Well and Outline Unit on Section Plat - 640 Acres



State	County	Permit Number
Utah	Duchesne	UT2736-04363

Surface Location Description
___ 1/4 of ___ 1/4 of NE 1/4 of NW 1/4 of Section 21 Township 5S Range 3W

Locate well in two directions from nearest lines of quarter section and drilling unit

Surface Location 660 ft. frm (N/S) N Line of quarter section
and 1980 ft. from (E/W) W Line of quarter section.

WELL ACTIVITY
- ☐ Brine Disposal
- ☒ Enhanced Recovery
- ☐ Hydrocarbon Storage

TYPE OF PERMIT
- ☐ Individual
- ☒ Area

Number of Wells 111

Lease Name Ute Indian Tribe Well Number UTE TRIBAL 21-03

		INJECTION PRESSURE		TOTAL VOLUME INJECTED		TUBING -- CASING ANNULUS PRESSURE (OPTIONAL MONITORING)	
MONTH	YEAR	AVERAGE PSIG	MAXIMUM PSIG	BBL	MCF	MINIMUM PSIG	MAXIMUM PSIG
January	13	0	0	0		0	0
February	13	0	0	0		0	0
March	13	1209	1641	1955		0	0
April	13	1838	1902	3837		0	0
May	13	1923	1961	3112		0	0
June	13	1906	1847	2088		0	0
July	13	1843	2073	2036		0	1920
August	13	1860	1777	0		0	1810
September	13	1338	1784	46		0	1810
October	13	1485	1496	0		0	0
November	13	1818	1917	3122		0	0
December	13	2048	2050	2627		0	0

Certification

I certify under the penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment. (Ref. 40 CFR 144.32)

Name and Official Title *(Please type or print)*	Signature	Date Signed
Chad Stevenson, Water Facilities Supervisor		2/11/2014

EPA Form 7520-11 (Rev. 12-08)

UIC Entered
Date 3/20/14
Initial JS

CBI
2

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Units of Measurement: **Standard**

Water Analysis Report

Production Company: **PETROGLYPH ENERGY INC**
Well Name: **UTE TRIBAL 21-03 INJ**
Sample Point: **Wellhead**
Sample Date: **1/8/2014**
Sample ID: **WA-263037**

Sales Rep: **James Patry**
Lab Tech: **Gary Winegar**

Scaling potential predicted using ScaleSoftPitzer from Brine Chemistry Consortium (Rice University)

Sample Specifics	
Test Date:	1/15/2014
System Temperature 1 (°F):	180
System Pressure 1 (psig):	1300
System Temperature 2 (°F):	60
System Pressure 2 (psig):	15
Calculated Density (g/ml):	0.999
pH:	7.10
Calculated TDS (mg/L):	2766.25
CO2 in Gas (%):	
Dissolved CO_2 (mg/L)):	0.00
H_2S in Gas (%):	
H2S in Water (mg/L):	0.00

Analysis @ Properties in Sample Specifics			
Cations	*mg/L*	*Anions*	*mg/L*
Sodium (Na):	704.23	Chloride (Cl):	1000.00
Potassium (K):	1.50	Sulfate (SO_4):	338.00
Magnesium (Mg):	65.00	Bicarbonate (HCO_3):	488.00
Calcium (Ca):	140.00	Carbonate (CO_3):	
Strontium (Sr):	3.70	Acetic Acid (CH_3COO)	
Barium (Ba):	0.15	Propionic Acid (C_2H_5COO)	
Iron (Fe):	3.60	Butanoic Acid (C_3H_7COO)	
Zinc (Zn):	0.43	Isobutyric Acid ($(CH_3)_2CHCOO$)	
Lead (Pb):	0.07	Fluoride (F):	
Ammonia NH_3:		Bromine (Br):	
Manganese (Mn):	0.17	Silica (SiO_2):	21.40

Notes:
B=.48 Al=0 Li=.04

(PTB = Pounds per Thousand Barrels)

		Calcium Carbonate		Barium Sulfate		Iron Sulfide		Iron Carbonate		Gypsum CaSO4·2H2O		Celestite SrSO4		Halite NaCl		Zinc Sulfide	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.18	9.73	0.93	0.08	0.00	0.00	0.31	1.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	157.00	0.16	8.62	0.78	0.07	0.00	0.00	0.34	1.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86.00	300.00	0.21	11.44	0.66	0.07	0.00	0.00	0.45	1.64	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	443.00	0.27	14.65	0.54	0.06	0.00	0.00	0.55	1.84	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
113.00	585.00	0.33	18.22	0.45	0.06	0.00	0.00	0.66	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
126.00	728.00	0.40	22.11	0.37	0.05	0.00	0.00	0.76	2.13	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
140.00	871.00	0.48	26.29	0.30	0.05	0.00	0.00	0.87	2.24	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
153.00	1014.00	0.56	30.71	0.24	0.04	0.00	0.00	0.97	2.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
166.00	1157.00	0.64	35.33	0.20	0.03	0.00	0.00	1.08	2.38	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
180.00	1300.00	0.73	40.11	0.16	0.03	0.00	0.00	1.18	2.43	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

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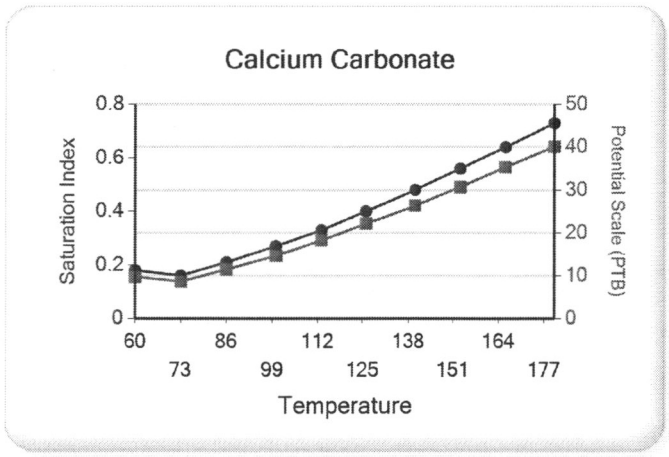
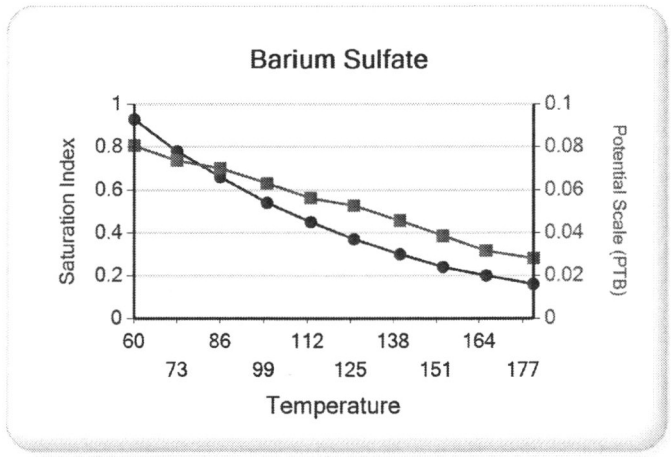
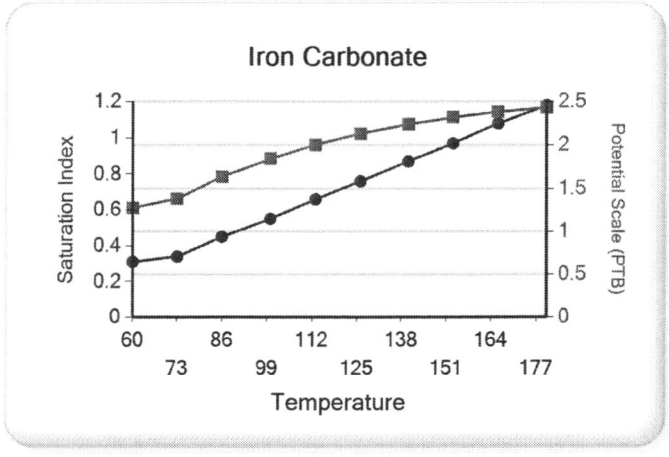
		Hemihydrate CaSO4~0.5H2O		Anhydrate CaSO4		Calcium Fluoride		Zinc Carbonate		Lead Sulfide		Mg Silicate		Ca Mg Silicate		Fe Silicate	
Temp (°F)	PSI	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB	SI	PTB
60.00	14.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
73.00	157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
86.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	443.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.13	0.21
113.00	585.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.67	0.95
126.00	728.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.24	1.53
140.00	871.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.83	1.96
153.00	1014.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	2.44	2.26
166.00	1157.00	0.00	0.00	0.00	0.00	0.00	0.00	0.18	0.10	0.00	0.00	0.00	0.00	0.00	0.00	3.07	2.46
180.00	1300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.35	0.16	0.00	0.00	0.67	5.05	0.00	0.00	3.70	2.59

These scales have positive scaling potential under initial temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate

These scales have positive scaling potential under final temperature and pressure: Calcium Carbonate Barium Sulfate Iron Carbonate Zinc Carbonate Mg Silicate Fe Silicate







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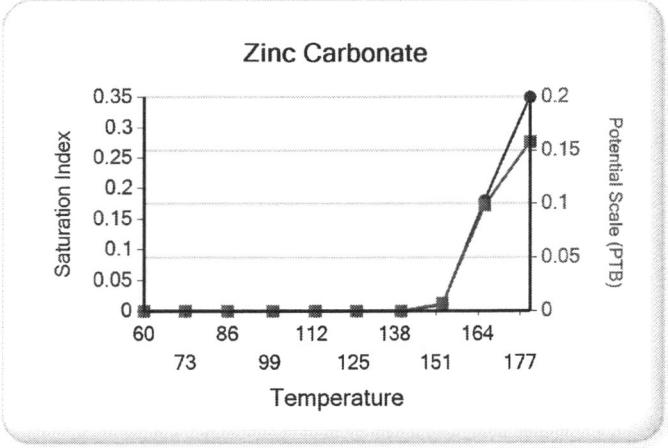
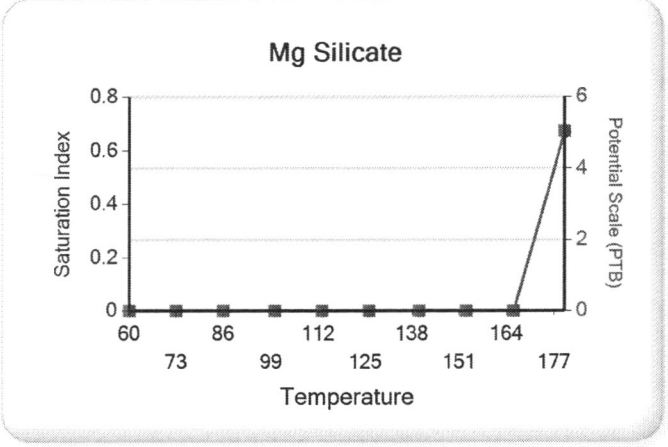
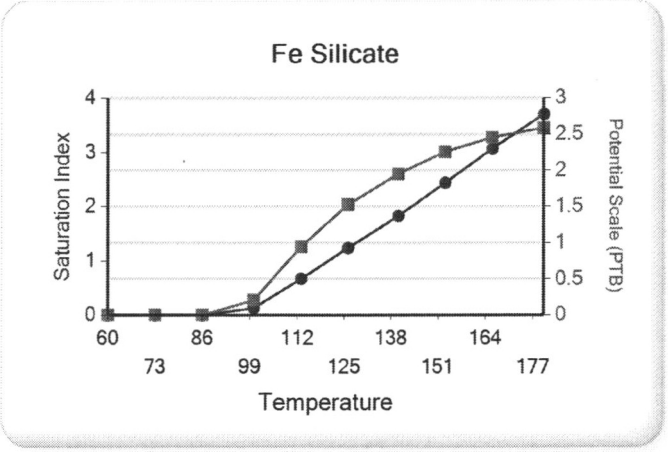
Water Analysis Report







Petroglyph Operating Company, Inc.
Annulus Pressure Cause and Mitigation Measures
2013 EPA Annual Injection Report

Well Name: Ute Tribal 21-03

UIC Permit Number: UT2736-04363

API Number: 43-013-31752

Cause of Pressure and Mitigation Measures:
During the month of July this well lost Mechanical Integrity. A rig moved on the well in September and found the reported pressure was due to surface equipment failure. The wellhead was quickly repaired and the well passed an MIT in September. All annulus pressure reported is associated with the loss of mechanical integrity and the subsequent MIT.

PETROGLYPH

July 29, 2013

Don Breffle
Mail Code: 8ENF-UFO
US EPA Region 8
1595 Wyncoop Street
Denver, CO 80202-1129

RE: Underground Injection Control (UIC)
Notice of Violation
Loss of Mechanical Integrity
EPA Permit #UT2736-04363
Well No. Ute Tribal 21-03
Antelope Creek Oil Field
Duchesne County, Utah

Dear Mr. Breffle:

Please be advised that we have lost the Mechanical Integrity on the Ute Tribal 21-03 injection well. My direct number is 435-722-5302 if you wish to contact us.

Sincerely,
Petroglyph Operating Company, Inc.

Rodrigo Jurado
Regulatory Compliance Specialist

Petroglyph Energy, Inc.
960 Broadway Ave., Ste. 500
BOISE, ID 83706
(208) 685-7600

WellWork LOE
Chronological
Regulatory

Well Name : UTE TRIBAL 21-03 INJ					
Prospect:	ANTELOPE CREEK			API #:	43013317520000
Sec/Twp/Rge:	21 / 5S / 3W	County, St.:	DUCHESNE, UT	Work Type:	Completion
Field:	ANTELOPE CREEK	Supervisor:		WI:	1
Operator:	PETROGLYPH	Phone:		NRI:	0.7975
Production Current/Expected	Oil: /	Gas: /		Water: /	

Date :	**9/24/2013**	Activity Type :	MIRU Rig	Days On WellWork:	1
Daily Detail :	Remarks Road Rig to location & spot in, had to level ground for rig pads to set & R/U Changeover for tbg & changeover BOP rams to 2 3/8 tbg, flowback tbg to 500 BBL open top frac tank & SDFN Travel				
Date :	**9/25/2013**	Activity Type :	Test	Days On WellWork:	2
Daily Detail :	Remarks Travel Went to N/D wellhead & found that B1 adapter was loose, replaced 2 3/8 collar as well as 2 7/8 x 2 3/8 swedge, N/U wellhead & pres test csg to 2000# (test good) Rack out equip & RDMOL & police location Travel				

October 1, 2013

EPA
ATTN: Don Breffle
Region 8
1595 Wyncoop Street
Denver, CO 80202-8917

UIC Permit #UT2736-04363
Well ID: Ute Tribal 21-03
Ute Tribal No. 21-03, Duchesne County, Utah

Dear Mr. Breffle,

Please find enclosed the successful MIT test on the above referenced well. This test was performed to provide proof of integrity after we rigged up on the well to address a Mechanical Integrity issue. Upon rigging up on the well we found a loose B1 Collar and faulty 2-7/8" X 2-3/8" Swedge. We replaced a 2-3/8" Collar and the referenced Swedge and performed an MIT on the well to 2000 Psi with no loss. The injection packer was never released and the tubing was never pulled. Please advise as soon as possible so we may resume injection on this well. Please let us know if there is a need for further action on our part and we will immediately comply. My direct number is 435-722-5302 if you wish to contact us.

Sincerely,

Rodrigo Jurado
Regulatory Compliance Spc

Encl: MIT

Mechanical Integrity Test
Tubing/Casing Annulus Pressure Test

U.S. Environmental Protection Agency
Underground Injection Control Program
1595 Wynkoop Street, Denver, CO 80202

EPA Witness: _____ Date: 9/27/2013
Test conducted by: CHAD STEVENSON
Others present: _____

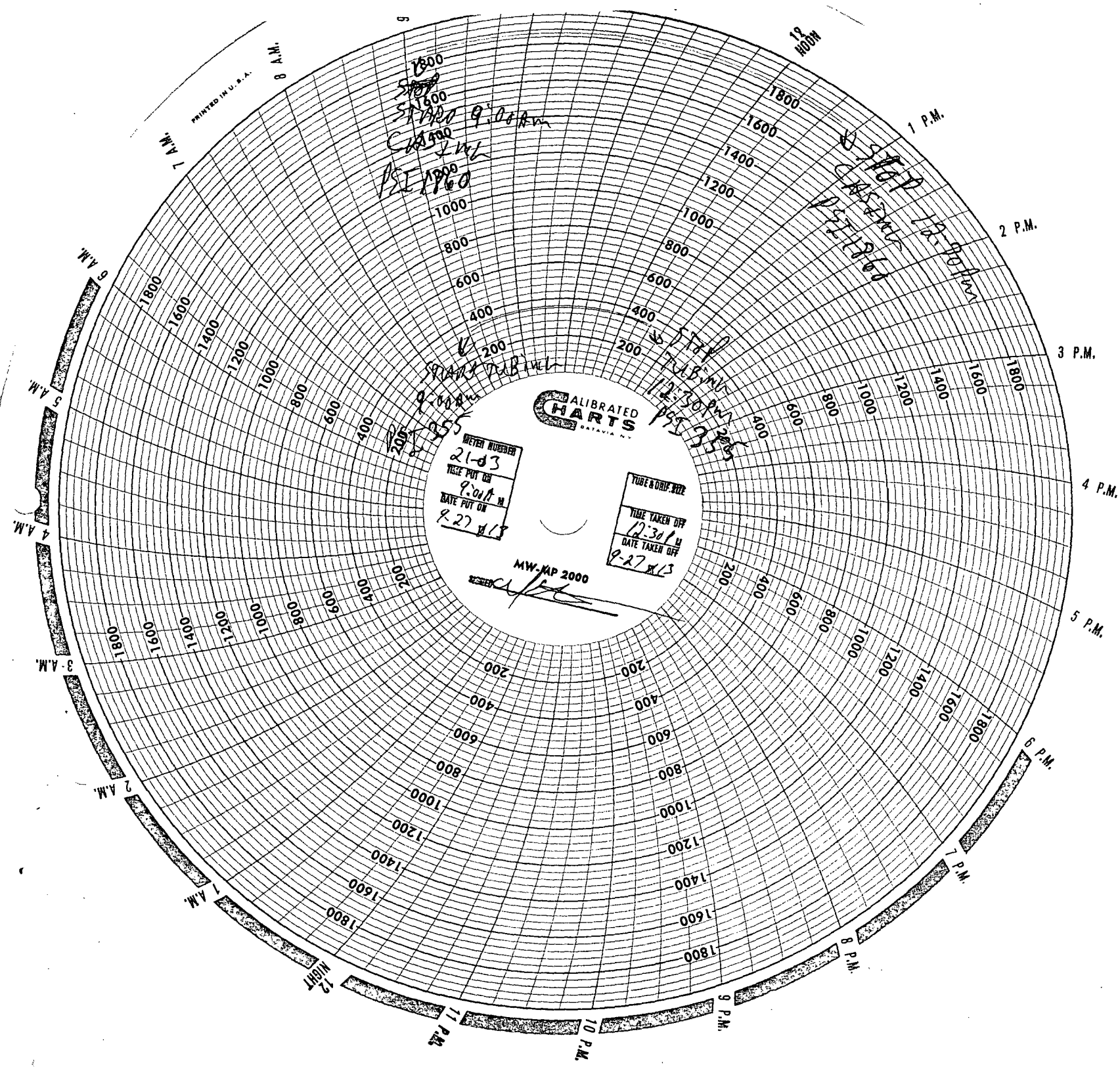
Well Name: 21-03 Type: ER SWD **Status:** AC TA UC
Field: ANTELOPE CREEK
Location: 21-03 Sec: ____ T ____ N / S R ____ E / W County: DUCHESNE State: UT
Operator: PETROGLYPH ENERGY
Last MIT: / / **Maximum Allowable Pressure:** _____ **PSIG**

Regularly scheduled test? [ ] Yes [ ] No
Initial test for permit? [ ] Yes [ ] No
Test after well rework? [X] Yes [ ] No

Well injecting during test? If Yes, rate: _____ **bpd**
Pre-test annulus pressure: _____ **psig**

MIT DATA TABLE	Test #1	Test #2	Test #3
TUBING		**PRESSURE RECORD**	
Initial Pressure	355 psig	psig	psig
End of test pressure	355 psig	psig	psig
CASING / TUBING ANNULUS		**PRESSURE RECORD**	
0 minutes	1860 psig	psig	psig
5 minutes	1860 psig	psig	psig
10 minutes	1860 psig	psig	psig
15 minutes	1860 psig	psig	psig
20 minutes	1860 psig	psig	psig
25 minutes	1860 psig	psig	psig
30 minutes	1860 psig	psig	psig
3 1/2 Hours ~~minutes~~	1860 psig	psig	psig
_____ minutes	psig	psig	psig
RESULT	[ ] Pass [ ] Fail	[ ] Pass [ ] Fail	[ ] Pass [ ] Fail

Does the annulus pressure build back up after the test ? If Yes, _____ psig.


CALIBRATED CHARTS
METER NUMBER
21-03
TIME PUT ON
9:00 A.M.
DATE PUT ON
9-27 XX
TUBE & ORIF. SIZE
TIME TAKEN OFF
12:30 P.M.
DATE TAKEN OFF
9-27 XX
MW-MP 2000
12 NOON
1 P.M.
2 P.M.
3 P.M.
4 P.M.
5 P.M.
6 P.M.
7 P.M.
8 P.M.
9 P.M.
10 P.M.
11 P.M.
12 MIDNIGHT
1 A.M.
2 A.M.
3 A.M.
4 A.M.
5 A.M.
6 A.M.
7 A.M.
8 A.M.
PRINTED IN U.S.A.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

OCT 3 0 2013

Ref: 8ENF-UFO

CERTIFIED MAIL 7008-3230-0003-0724-6805
RETURN RECEIPT REQUESTED

Mr. Les Farnsworth, District Supervisor
Petroglyph Operating Company, Inc.
4116 W 3000 S Ioka Lane
P.O. Box 607
Roosevelt, UT 84066

Re: Underground Injection Control (UIC)
Permission to Resume Injection
Ute Tribal 21-03 Well
EPA ID# UT20736-04363
API # 43-013-31752
Antelope Creek Oil Field
Duchesne County, UT

Dear Mr. Farnsworth:

On October 21, 2013, the EPA received information from Petroglyph Operating Company, Inc., on the above referenced well concerning the workover to address a mechanical integrity issue and the followup mechanical integrity test (MIT) conducted on September 27, 2013. The data submitted shows that the well passed the required MIT. Therefore, pursuant to Title 40 of the Code of Federal Regulations Section 144.51(q)(2) (40 C.F.R. §144.51(q)(2)), permission to resume injection is granted. Under continuous service, the next MIT will be due on or before September 27, 2018.

Pursuant to 40 C.F.R. §144.52(a)(6), if the well is not used for a period of at least two (2) years ("temporary abandonment"), it shall be plugged and abandoned unless the EPA is notified and procedures are described to the EPA ensuring the well will not endanger underground sources of drinking water ("non-endangerment demonstration") during its continued temporary abandonment. A successful MIT is an acceptable non-endangerment demonstration and would be necessary every two (2) years the well continues in temporary abandonment.

Failure to comply with a UIC Permit, or the UIC regulations found at 40 C.F.R. Parts 144 through 148 constitute one or more violations of the Safe Drinking Water Act, 42 U.S.C. §300h. Such non-compliance may subject you to formal enforcement by the EPA, as codified at 40 C.F.R. Part 22.

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

Ref: 8P2-W-GW

MAR - 4 1998

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Kathy Turner
Petroleum Engineering Technician
Petroglyph Operating Company, Inc.
P. O. Box 1839
Hutchinson, KS 67504-1839

RE: UNDERGROUND INJECTION CONTROL (UIC)
Authorization to Inject
Ute Tribal #21-03 (UT04363)
Antelope Creek Waterflood
EPA Area Permit No. UT2736-00000
Duchesne County, Utah

Dear Ms. Turner:

Thank you for the recently submitted information pertaining to the above-referenced area permit and well. The Well Rework Record, injection zone fluid pore pressure survey, and the successfully run mechanical integrity test, with chart, on the Ute Tribal #21-03 (UT2736-04363) have been reviewed and approved. Petroglyph Operating Company, Inc, has complied with all of the pertinent permit conditions (Part II, Section C. 2.) for the Antelope Creek Waterflood Area Permit.

Pleased be advised that administrative approval has been granted for injection of Class II fluids into the above referenced well for enhanced recovery of oil and gas. Please also be aware of the monitoring, recordkeeping and reporting requirements described in Part II, Section D of the permit and that the current **maximum surface injection pressure (Pmax) is limited to 2451 psig**, as modified by UIC Minor Permit Modification dated December 19, 1997.

Upon receipt of this letter, the Compliance Officer, Mr. John Carson will then take over routine matters involving well operations, future correspondence, forms, and reports. Please direct all correspondence to the attention of Mr. Carson at the above letterhead **(MAIL CODE ENF-T)** or contact Mr. Carson at (303) 312-6203. Thank you for your continued cooperation.

Sincerely,

D. Edwin Hogle
Director, Groundwater Program
Office of Pollution Prevention
State and Tribal Assistance

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

MAR - 4 1998

Scan under
UT20736 - 04363
Authorization to Inject -
Final

2

echnician
mpany, Inc.

339

RE: UNDERGROUND INJECTION CONTROL (UIC)
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Director, Groundwater Program
Office of Pollution Prevention
State and Tribal Assistance

cc: Mr. Ronald Wopsock, Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Mr. Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Gil Hunt
State of Utah Natural Resources
Division of Oil, Gas, and Mining

Mr. Jerry Kenczka
BLM - Vernal District Office

3/4/98 CW 3236C (Ute Tribal #21-03)

SENDER:
- Complete items 1 and/or 2 for additional services.
- Complete items 3, 4a, and 4b.
- Print your name and address on the reverse of this form so that we can return this card to you.
- Attach this form to the front of the mailpiece, or on the back if space does not permit.
- Write "*Return Receipt Requested*" on the mailpiece below the article number.
- The Return Receipt will show to whom the article was delivered and the date delivered.

MAR 5 1998

I also wish to receive the following services (for an extra fee):
1. ☐ Addressee's Address
2. ☐ Restricted Delivery

Consult postmaster for fee.

3. Article Addressed to:
Ms. Kathy Turner
Geology/Petroleum Engineering Technician
Petroglyph Operating Company, Inc.
P.O. Box 1839
Hutchinson, KS 67504-1839

4a. Article Number
P 213 403 743

4b. Service Type
☐ Registered ■ Certified
☐ Express Mail ☐ Insured
☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
MAR -9 1998

5. Received By: (Print Name)
Kristine Brown

8. Addressee's Address (Only if requested and fee is paid)
(rec'd KG MAR 13 1998)

6. Signature: (Addressee or Agent)
X Kristine Brown

PS Form **3811**, December 1994 Domestic Return Receipt

Is your RETURN ADDRESS completed on the reverse side?

Thank you for using Return Receipt Service.

P 213 403 743

3/4/98 CW 3236C

US Postal Service
Receipt for Certified Mail
No Insurance Coverage Provided.
Do not use for International Mail *(See reverse)*

Sent to: Ms. Kathy Turner	
Street & Number: Geology/Petroleum Engineering Technician	
Post Office, State, & ZIP Code: Petroglyph Operating Company, Inc. P.O. Box 1839 Hutchinson, KS 67504-1839	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to Whom & Date Delivered	
Return Receipt Showing to Whom, Date, & Addressee's Address	
TOTAL Postage & Fees	$
Postmark or Date	

PS Form **3800**, April 1995

CONCURRENCE COPY

Ref: 8P2-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. Kathy Turner
Petroleum Engineering Technician
Petroglyph Operating Company, Inc.
P. O. Box 1839
Hutchinson, KS 67504-1839

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1/5/11

D. Edwin Hogle
Director, Groundwater Program
Office of Pollution Prevention
State and Tribal Assistance

8P2-W-GW
3/3/98

8P2-W-GW
3/4/98

CEW
8P2-W-GW
3/3/98 JG
mailed 3/4/98 JG

cc: Mr. Ronald Wopsock, Chairman
Uintah & Ouray Business Committee
Ute Indian Tribe

Ms. Elaine Willie, Environmental Director
Ute Indian Tribe

Mr. Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Gil Hunt
State of Utah Natural Resources
Division of Oil, Gas, and Mining

Mr. Jerry Kenczka
BLM - Vernal District Office

FCD: February 27, 1998, Chuck W., F:\DATA\WP\PETROGLF\AUT-IN21.03

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

Ref: 8P2-W-GW

MAR - 4 1998

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BLM - Vernal District Office

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

JAN 0 8 2013

Ref: 8ENF-UFO

CERTIFIED MAIL 7009-3410-0000-2599-7631
RETURN RECEIPT REQUESTED

Mr. Les Farnsworth, District Supervisor
Petroglyph Operating Company, Inc.
4116 W 3000 S Ioka Lane
P.O. Box 607
Roosevelt, UT 84066

Re: Underground Injection Control (UIC)
Permission to Resume Injection
Tribal 21-14, 16-11, 21-03 and 07-09 Wells
EPA ID# UT20736-06481, 04393, 04363 and 04415
API # 43-013-31742, 43-013-31799, 43-013-31752 and 43-013-31900
Antelope Creek Oil Field
Duchesne County, UT

	GREEN	BLUE	CBI
		1	

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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
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1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
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Lease under
UT 20736 - 04363
Corrective Action
Complete

JAN 08 2013

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Petroglyph Operating Company, Inc.
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Sincerely,

Darcy O'Connor, Acting Director
UIC/FIFRA/OPA Technical Enforcement Programs

cc:

Irene Cuch, Jr., Chairwoman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Ronald Wopsock, Vice-Chairman
Uintah & Ouray Business Committee
P.O. Box 190
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Phillip Chimburas, Councilman
Uintah & Ouray Business Committee
P.O. Box 190
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Manuel Myore, Director of Energy,
Minerals and Air Programs
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, Utah 84026

Mike Natchees, Environmental
Coordinator
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, Utah 84026

John Rogers
Utah Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114

bcc: Randy Brown (8P-TA)

SENDER: COMPLETE THIS SEC

- Complete items 1, 2, and 3. Also item 4 if Restricted Delivery is de
- Print your name and address on so that we can return the card to
- Attach this card to the back of th or on the front if space permits.

1. Article Addressed to:

Les Farnsworth, District Su
Petroglyph Operating Com
4116 W 3000 S Ioka Lane
PO Box 607
Roosevelt, UT 84066

JAN - 9 2013

2. Article Number
(Transfer from service label)

PS Form 3811, February 2004

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Sent To Les Farnsworth, District Supervisor
Petroglyph Operating Company, Inc.
Street, A 4116 W 3000 S Ioka Lane
or PO Bc PO Box 607
City, Stat Roosevelt, UT 84066

PS Form 3800, August 2006 See Reverse for Instructio

Domestic Return Receipt

102595-02-M-1

hp LaserJet 4345mfp series

Fax Call Report 1

U.S. EPA (6211MR)
303-312-6953
2013-Jan-08 12:53 PM

Job	Date/Time	Type	Identification	Duration	Pages	Result
1570	2013-Jan-08 12:51 PM	Send	9.14357229145	1:03	4	Success

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 WYNKOOP STREET
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

FACSIMILE TRANSMITTAL SHEET

TO:	FROM:
Les Farnsworth	Don Breffle
COMPANY:	DATE:
Petroglyph Operating Company	01/08/13
FAX NUMBER:	TOTAL NO. OF PAGES, INCLUDING COVER:
435 722 9145	4
PHONE NUMBER:	SENDER'S PHONE NUMBER:
	303 312 6186
RE:	YOUR REFERENCE NUMBER:
UIC Permission to Resume Injection	

URGENT ☒ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

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435 722 9145	4
PHONE NUMBER:	SENDER'S PHONE NUMBER:
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1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
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Ref: 8ENF-UFO CONCURRENCE COPY

CERTIFIED MAIL 7009-3410-0000-2599-7631
RETURN RECEIPT REQUESTED

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4116 W 3000 S Ioka Lane
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8ENF-UFO
1/2/13

8ENF-UFO
1/2/13

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Minerals and Air Programs
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REGION 8
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DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

OCT 30 2013

Ref: 8ENF-UFO

CERTIFIED MAIL 7008-3230-0003-0724-6805
RETURN RECEIPT REQUESTED

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4116 W 3000 S Ioka Lane
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EPA ID# UT20736-04363
API # 43-013-31752
Antelope Creek Oil Field
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	GREEN	BLUE	CBI
TAB		1	

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

OCT 30 2013

Scan under
UT20736-04363
Corrective Action
Complete

Ref: 8ENF-UFO

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Fort Duchesne, Utah 84026

Stewart Pike, Councilman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Tony Small, Councilman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Bruce Ignacio, Councilman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Phillip Chimburas, Councilman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Manuel Myore, Director of Energy,
Minerals and Air Programs
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, Utah 84026

Mike Natchees, Environmental
Coordinator
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, Utah 84026

John Rogers
Utah Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114

bcc: Randy Brown (8P-TA)

bcc: Randy Brown (8P-TA)

SENDER: *COMPLETE THIS SECTION*

- Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
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1. Article Addressed to:

OCT 31 2013

A

Mr. Les Farnsworth, District Supervisor
Petroglyph Operating Company, Inc.
4116 W 3000 S Ioka Lane
P.O. Box 607
Roosevelt, UT 84066

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Petroglyph Operating Company, Inc.
Street, Apt. or PO Box 4116 W 3000 S Ioka Lane
P.O. Box 607
City, State, Roosevelt, UT 84066

7008 3230 0003 0724 6805

PS Form 3800, August 2006 See Reverse for Instructions

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8
1595 Wynkoop Street
DENVER, CO 80202-1129
Phone 800-227-8917
http://www.epa.gov/region08

Ref: 8ENF-UFO CONCURRENCE COPY

CERTIFIED MAIL 7008-3230-0003-0724-6805
RETURN RECEIPT REQUESTED

Mr. Les Farnsworth, District Supervisor
Petroglyph Operating Company, Inc.
4116 W 3000 S Ioka Lane
P.O. Box 607
Roosevelt, UT 84066

Re: Underground Injection Control (UIC)
Permission to Resume Injection
Ute Tribal 21-03 Well
EPA ID# UT20736-04363
API # 43-013-31752
Antelope Creek Oil Field
Duchesne County, UT

Dear Mr. Farnsworth:

On October 21, 2013, the EPA received information from Petroglyph Operating Company, Inc., on the above referenced well concerning the workover to address a mechanical integrity issue and the followup mechanical integrity test (MIT) conducted on September 27, 2013. The data submitted shows that the well passed the required MIT. Therefore, pursuant to Title 40 of the Code of Federal Regulations Section 144.51(q)(2) (40 C.F.R. §144.51(q)(2)), permission to resume injection is granted. Under continuous service, the next MIT will be due on or before September 27, 2018.

Pursuant to 40 C.F.R. §144.52(a)(6), if the well is not used for a period of at least two (2) years ("temporary abandonment"), it shall be plugged and abandoned unless the EPA is notified and procedures are described to the EPA ensuring the well will not endanger underground sources of drinking water ("non-endangerment demonstration") during its continued temporary abandonment. A successful MIT is an acceptable non-endangerment demonstration and would be necessary every two (2) years the well continues in temporary abandonment.

Failure to comply with a UIC Permit, or the UIC regulations found at 40 C.F.R. Parts 144 through 148 constitute one or more violations of the Safe Drinking Water Act, 42 U.S.C. §300h. Such non-compliance may subject you to formal enforcement by the EPA, as codified at 40 C.F.R. Part 22.

8ENF-UFO
10/28/13

8ENF-UFO
10/28/13

If you have any questions concerning this letter, you may contact Sarah Roberts at (303) 312-7056. Please direct all correspondence to the attention of Sarah Roberts at Mail Code 8ENF-UFO.

Sincerely,

Darcy O'Connor, Director
UIC/FIFRA/OPA Technical Enforcement Programs

cc:

Gordon Howell, Chairman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Ronald Wopsock, Vice-Chairman
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Reannin Tapoof, Executive Assistant
Uintah & Ouray Business Committee
P.O. Box 190
Fort Duchesne, Utah 84026

Stewart Pike, Councilman
Uintah & Ouray Business Committee
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Manuel Myore, Director of Energy,
Minerals and Air Programs
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, Utah 84026

Mike Natchees, Environmental
Coordinator
Ute Indian Tribe
P.O. Box 190
Fort Duchesne, Utah 84026

John Rogers
Utah Division of Oil, Gas and Mining
P.O. Box 145801
Salt Lake City, Utah 84114

bcc: Randy Brown (8P-TA)

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

APR 25 1997

Ref: 8P2-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. April Menzies
Geology/Petroleum Engineering Technician
Petroglyph Operating Company, Inc.
6209 North Highway 61
Hutchinson, Kansas 67502

RE: **UIC Minor Permit Modification**
Conversion of Additional Well to
Antelope Creek Waterflood
EPA Area Permit UT2736-00000
Duchesne County, Utah

Dear Ms. Menzies:

Your letter of April 8, 1997, requesting that the following production well be converted to a Class II enhanced oil recovery well and added to the Antelope Creek Waterflood, as authorized under EPA Area Permit #UT2736-00000, is hereby granted.

NAME	LOCATION	EPA WELL PERMIT NO.
Ute Tribal #21-03	NE/NW Section 21 T 5 S - R 3 W Duchesne County, UT	**#UT2736-04363**

This additional well is within the boundary of the existing area permit for the Antelope Creek Waterflood (UT2736-00000), and this addition is made by minor permit modification according to the terms and conditions of that permit. Unless specifically mentioned in this Minor Permit Modification, all terms and conditions of the original permit will apply to the construction, operation, monitoring, and plugging and abandonment of this additional injection well. The proposed well location, well schematic, conversion procedures, plugging and abandonment plan and schematic, submitted by your office, have been reviewed and approved as follows:

(1) The **conversion** of this production well has been reviewed, and found satisfactory, therefore, no corrective action is required.

(2) **Maximum injection pressure (Pmax)** - the permittee submitted a list of five (5) individual zones, within the Ute Tribal #21-03, which were individually fraced and established an average fracture gradient (Fg) of 0.95 psi/ft. which was derived from instantaneous shut-in pressures (ISIP) from each zone. This Fg is acceptable to the Environmental Protection Agency (EPA), and a theoretical maximum allowable surface injection pressure (Pmax), for this well, may be calculated as shown below:

Pmax = [Fg - 0.433 (Sg)] d

Where: Pmax = Maximum surface injection pressure at wellhead

d = 4714' shallowest perforations

Sg = Specific gravity of injected water

Pmax = [0.95 - .433 (1.00)] 4714

Pmax = 2451 psig

Until such time as the permittee demonstrates that a fracture gradient other than 0.95 psi/ft applies to the disposal zones of this newly converted well, the maximum allowable wellhead injection pressure **(Pmax) for this well will be 2451 psig.**

(3) The **plugging and abandonment plan and schematic**, submitted by your office, has been reviewed, and approved.

Prior to commencing injection into this well, permittee must fulfill permit condition Part II, C. 2. and have received **written authorization** to inject **by the Environmental Protection Agency.** In summary, these requirements for your newly permitted injection well are:

(1) All conversion is complete and the permittee has submitted a completed **Well Rework Record (EPA Form 7520-12).**

(2) The **pore pressure has been determined.**

(3) The well has successfully completed and passed a **mechanical integrity test (MIT)**; MIT guidance and EPA form enclosed.

All other provisions and conditions of the permit remain as originally issued.

If you have any questions, please contact Mr. Chuck Williams at (303) 312-6625.

Also, please direct the above requirements to Mr. Williams at the above letterhead address, citing **MAIL CODE 8P2-W-GW.** Thank you for your continued cooperation.

Sincerely,

Kerrigan G. Clough
Assistant Regional Administrator
Office of Pollution Prevention,
State and Tribal Assistance

Enclosure: MIT Guidance and EPA Form

cc: Mr. Ferron Secakuku
Energy & Mineral Resource Dep't.
Ute Indian Tribe

Ms. Ruby Atwine, Chairperson
Uintah & Ouray Business Committee
Northern Ute Tribe

Mr. Jonas Grant, Director
Division of Natural Resources
Northern Ute Tribe

Mr. Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Gil Hunt
State of Utah Natural Resources
Division of Oil, Gas, and Mining

Mr. Jerry Kenczka
BLM - Vernal District Office

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- Complete items 1 and/or 2 for additional services.
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2. ☐ Restricted Delivery

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3. Article Addressed to: UT2736-00000

Ms. April Menzies
Geology/Petroleum Engineering
Technician
Petroglyph Operating Company, Inc.
6209 North Highway 61
Hutchinson, Kansas 67502

4a. Article Number
P 078 121 164

4b. Service Type
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☐ Return Receipt for Merchandise ☐ COD

7. Date of Delivery
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6. Signature: *(Addressee or Agent)*
X

cjo

PS Form **3811**, December 1994

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CEW 3032C

Ms. April Menzies
Geology/Petroleum Engineering
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Petroglyph Operating Company, Inc.
6209 North Highway 61
Hutchinson, Kansas 67502

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PS Form 3800, June 1991

UIC Minor Permit Modification
Conversion of Add. Well to
Antelope Creek Waterflood
EPA Area Permit UT2736-00000
Duchesne County, Utah

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION VIII
999 18th STREET - SUITE 500
DENVER, COLORADO 80202-2466

JUL -6 1995

Ref: 8WM-DW

MEMORANDUM

SUBJECT: **Final Guidance for Conducting a Pressure Test to Determine if a Well Has Leaks in the Tubing, Casing or Packer**

FROM: Tom Pike, Chief UIC Direct Implementation

TO: UIC Direct Implementation Permit Writers

Introduction

The Underground Injection Control (UIC) regulations require that an injection well have mechanical integrity at all times (40 CFR 144.28 (f)(2) and 40 CFR 144.51 (q)(1)). A well has mechanical integrity (40 CFR 146.8) if:

(1) There is no significant leak in the tubing, casing or packer; and

(2) There is no significant fluid movement into an underground source of drinking water (USDW) through vertical channels adjacent to the injection wellbore.

Definition: Mechanical Integrity Pressure Test for Part I. A pressure test used to determine the integrity of all the downhole components of an injection well, usually tubing, casing and packer. It is also used to test tubing cemented in the hole by using a tubing plug or retrievable packer. Pressure tests must be run at least once every five years. **If for any reason the tubing/packer is pulled, the injection well is required to pass another mechanical integrity test of the tubing casing and packer prior to recommencing injection regardless of when the last test was conducted. Tests run by operators in the absence of an EPA inspector must be conducted according to these procedures and recorded on either the attached form or an equilivant form containing the necessary information. A pressure recording chart documentating the actual annulus test pressures must be attached to the form.**

This guidance addresses making a determination of Part I of Mechanical Integrity (no leaks in the tubing, casing or

packer). The Region's policy is: 1) to determine if there are significant leaks in the tubing, casing or packer; 2) to assure that the casing can withstand pressure similar to that which would be applied if the tubing or packer fails; 3) to make the Region's test procedure consistent with the procedures utilized by other Region VIII Primacy programs; and 4) to provide a procedure which can be easily administered and is applicable to all class I and II wells. Although there are several methods allowed for determining mechanical integrity, the principal method involves running a pressure test of the tubing/casing annulus. Region VIII's procedure for running a pressure test is intended to aid UIC field inspectors who witness pressure tests for the purpose of demonstrating that a well has Part I of Mechanical Integrity. The guidance is also intended as a means of informing operators of the procedures required for conducting the test in the absence of an EPA inspector.

Pressure Test Description

Test Frequency

The mechanical integrity of an injection well must be maintained at all times. Mechanical integrity pressure tests are required at least every five (5) years. **If for any reason the tubing/packer is pulled, however, the injection well is required to pass another mechanical integrity test prior to recommencing injection regardless of when the last test was conducted. The Regional UIC program must be notified of the workover and the proposed date of the pressure test. The well's test cycle would then start from the date of the new test if the well passes the test and documentation is adequate.** Tests may be required on a more frequent basis depending on the nature of the injectate and the construction of the well (see Section guidance on MITs for wells with cemented tubing and regulations for Class I wells).

Region VIII's criteria for well testing frequency is as follows:

1. Class I hazardous waste injection wells; initially [40 CFR 146.68(d)(1)] and annually thereafter;

2. Class I non-hazardous waste injection wells; initially and every two (2) years thereafter, except for old permits (such as the disposal wells at carbon dioxide extraction plants which require a test at least every five years);

3. Class II wells with tubing, casing and packer; initially and at least every five (5) years thereafter;

4. Class II wells with tubing cemented in the hole; initially and every one (1) or two (2) years thereafter depending on well specific conditions (See Region VIII UIC Section Guidance #36);

5. Class II wells which have been temporarily abandoned (TAd) must be pressure tested after being shut-in for two years; and

6. Class III uranium extraction wells; initially.

Test Pressure

To assure that the test pressure will detect significant leaks and that the casing is subjected to pressure similar to that which would be applied if the tubing or packer fails, the tubing/casing annulus should be tested at a pressure equal to the maximum allowed injection pressure or 1000 psig whichever is less. The annular test pressure must, however, have a difference of at least 200 psig either greater or less than the injection tubing pressure. Wells which inject at pressures of less than 300 psig must test at a minimum pressure of 300 psig, and the pressure difference between the annulus and the injection tubing must be at least 200 psi.

Test Criteria

1. The duration of the pressure test is 30 minutes.

2. Both the annulus and tubing pressures should be monitored and recorded every five (5) minutes.

3. If there is a pressure change of 10 percent or more from the initial test pressure during the 30 minute duration, the well has failed to demonstrate mechanical integity and should be shut-in until it is repaired or plugged.

4. A pressure change of 10 percent or more is considered significant. If there is no significant pressure change in 30 minutes from the time that the pressure source is disconnected from the annulus, the test may be completed as passed

Recordkeeping and Reporting

The test results must be recorded on the attached form. The annulus pressure should be recorded at five (5) minute intervals. **Tests run by operators in the absence of an EPA inspector must be conducted according to these procedures and recorded on the attached form or an equilivant form . A pressure recording chart documentating the actual annulus test pressures must be attached to the submittal.** The tubing pressure at the beginning and end of each test must be recorded. The volume of the annulus fluid bled back at the surface after the test should be measured and recorded on the form. This can be done by bleeding the annulus pressure off and discharging the associated fluid into a five gallon container. The volume information can be used to verify the approximate location of the packer.

Procedures for Pressure Test

1. Scheduling the test should be done at least two (2) weeks in advance.

2. Information on the well completion (location of the packer, location of perforations, previous cement work on the casing, size of casing and tubing, etc.) and the results of the previous MIT test should be reviewed by the field inspector in advance of the test. Regional UIC Guidance #35 should also be reviewed. Information relating to the previous MIT and any well workovers should be reviewed and taken into the field for verification purposes.

3. All Class I wells and Class II SWD wells should be shut-in prior to the test. A 12 to 24-hour shut-in is preferable to assure that the temperature of the fluid in the wellbore is stable.

4. Class II enhanced recovery wells may be operating during the test, but it is recommended that the well be shut-in if possible.

5. The operator should fill the casing/tubing annulus with inhibited fluid at least 24 hours in advance, if possible. Filling the annulus should be undertaken through one valve with the second valve open to allow air to escape. After the operator has filled the annulus, a check should be made to assure that the annulus will remain full. If the annulus can not maintain a full column of fluid, the operator should notify the Director and begin a rework. The operator should measure and report the volume of fluid added to

the annulus. If not already the case, the casing/tubing valves should be closed, at least, 24 hours prior to the pressure test.

Following steps are at the well:

6. Read tubing pressure and record on the form. If the well is shut-in, the reported information on the actual maximum operating pressure should be used to determine test pressures.

7. Read pressure on the casing/tubing annulus and record value on the form. If there is pressure on the annulus, it should be bled off prior to the test. If the pressure will not bleed-off, the guidance on well failures (Region VIII UIC Section Guidance #35) should be followed.

8. Ask the operator for the date of the last workover and the volume of fluid added to the annulus prior to this test and record information on the form.

9. Hook-up well to pressure source and apply pressure until test value is reached.

10. Immediately disconnect pressure source and start test time. (If there has been a significant drop in pressure during the process of disconnection, the test may have to be restarted.) The pressure gages used to monitor injection tubing pressure and annulus pressure should have a pressure range which will allow the test pressure to be near the mid-range of the gage. Additionally, the gage must be of sufficient accuracy and scale to allow an accurate reading of a 10 percent change to be read. For instance, a test pressure of 600 psi should be monitored with a 0 to 1000 psi gage. The scale should be incremented in 20 psi increments.

11. Record tubing and annulus pressure values every five (5) minutes.

12. At the end of the test, record the final tubing pressure.

13. If the test fails, check the valves, bull plugs and casing head close up for possible leaks. The well should be retested.

14. If the second test indicates a well failure, the Region should be informed of the failure within 24 hours by the operator, and the well should be shut-in within 48 hours per Headquarters guidance #76. A follow-up

letter should be prepared by the operator which outlines the cause of the MIT failure and proposes a potential course of action. This report should be submitted to EPA within five days.

15. Bleed off well into a bucket, if possible, to obtain a volume estimate. This should be compared to the calculated value obtained using the casing/tubing annulus volume and fluid compressibility values.

16. Return to office and prepare follow-up.

Attachment

Mechanical Integrity Test
Casing or Annulus Pressure Test for Well UT2736-04363

U.S. Environmental Protection Agency
Underground Injection Control Program, UIC Implementation Section, 8WM-DW
999 18th Street, Suite 500, Denver, CO 80202-2466
This form was printed on 04/15/1997.

EPA Witness: _____ Date __/__/__

Test conducted by: _____

Others present: _____

UTE TRIBAL #21-03 2R UC as of / /
ANTELOPE CREEK NENW 21 05S 03W
Petroglyph Operating Company, Inc., Hutchinson, KS Op ID PTG01

Last MIT: No record / /
Max Allowed Press psig 199 Max Reported Press . psig

Is this a regularly scheduled test? [ ] Yes [ ] No
Initial test for permit? [ ] Yes [ ] No
Test after well rework? [ ] Yes [ ] No

Well injecting during test? [ ] NO [ ] YES _____ BPD

Initial casing/tubing annulus pressure _____ psig
Does the annulus pressure build back up? [ ] Yes [ ] No

TUBING PRESSURE			
Initial	psig	psig	psig
End of Test	psig	psig	psig
CASING/TUBING ANNULUS PRESSURE			
Time	Test #1	Test #2	Test #3
0 min	psig	psig	psig
5			
10			
15 min			
20			
25			
30 min			
Result (circle)	Pass Fail	Pass Fail	Pass Fail

CONCURRENCE COPY

APR 25 1997

Ref: 8P2-W-GW

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Ms. April Menzies
Geology/Petroleum Engineering Technician
Petroglyph Operating Company, Inc.
6209 North Highway 61
Hutchinson, Kansas 67502

RE: **UIC Minor Permit Modification**
Conversion of Additional Well to
Antelope Creek Waterflood
EPA Area Permit UT2736-00000
Duchesne County, Utah

Dear Ms. Menzies:

Your letter of April 8, 1997, requesting that the following production well be converted to a Class II enhanced oil recovery well and added to the Antelope Creek Waterflood, as authorized under EPA Area Permit #UT2736-00000, is hereby granted.

NAME	LOCATION	EPA WELL PERMIT NO.
Ute Tribal #21-03	NE/NW Section 21 T 5 S - R 3 W Duchesne County, UT	**#UT2736-04363**

This additional well is within the boundary of the existing area permit for the Antelope Creek Waterflood (UT2736-00000), and this addition is made by minor permit modification according to the terms and conditions of that permit. Unless specifically mentioned in this Minor Permit Modification, all terms and conditions of the original permit will apply to the construction, operation, monitoring, and plugging and abandonment of this additional injection well. The proposed well location, well schematic, conversion procedures, plugging and abandonment plan and schematic, submitted by your office, have been reviewed and approved as follows:

(1) The **conversion** of this production well has been reviewed, and found satisfactory, therefore, no corrective action is required.

CEW 8P2-W-GW 4/17/97

Concur 8P2-W-GW Apr 21, 97

Dedrick 8P2-W-GW 4/23/97

8P2WMS for STUbar 4/29/97

CJO

(2) **Maximum injection pressure (Pmax)** - the permittee submitted a list of five (5) individual zones, within the Ute Tribal #21-03, which were individually fraced and established an average fracture gradient (Fg) of 0.95 psi/ft. which was derived from instantaneous shut-in pressures (ISIP) from each zone. This Fg is acceptable to the Environmental Protection Agency (EPA), and a theoretical maximum allowable surface injection pressure (Pmax), for this well, may be calculated as shown below:

$$Pmax = [Fg - 0.433\ (Sg)]\ d$$

Where: Pmax = Maximum surface injection pressure at wellhead

d = 4714' shallowest perforations

Sg = Specific gravity of injected water

$$Pmax = [0.95 - .433\ (1.00)]\ 4714$$

Pmax = 2451 psig

Until such time as the permittee demonstrates that a fracture gradient other than 0.95 psi/ft applies to the disposal zones of this newly converted well, the maximum allowable wellhead injection pressure **(Pmax) for this well will be 2451 psig.**

(3) The **plugging and abandonment plan and schematic**, submitted by your office, has been reviewed, and approved.

Prior to commencing injection into this well, permittee must fulfill permit condition Part II, C. 2. and have received **written authorization** to inject **by the Environmental Protection Agency**. In summary, these requirements for your newly permitted injection well are:

(1) All conversion is complete and the permittee has submitted a completed **Well Rework Record (EPA Form 7520-12)**.

(2) The **pore pressure has been determined.**

(3) The well has successfully completed and passed a **mechanical integrity test (MIT)**; MIT guidance and EPA form enclosed.

All other provisions and conditions of the permit remain as originally issued.

If you have any questions, please contact Mr. Chuck Williams at (303) 312-6625.

Also, please direct the above requirements to Mr. Williams at the above letterhead address, citing **MAIL CODE 8P2-W-GW.** Thank you for your continued cooperation.

Sincerely,

Original signed
Kerrigan G. Clough
Assistant Regional Administrator
Office of Pollution Prevention,
State & Tribal Assistance

Kerrigan G. Clough
Assistant Regional Administrator
Office of Pollution Prevention,
State and Tribal Assistance

Enclosure: MIT Guidance and EPA Form

cc: Mr. Ferron Secakuku
Energy & Mineral Resource Dep't.
Ute Indian Tribe

Ms. Ruby Atwine, Chairperson
Uintah & Ouray Business Committee
Northern Ute Tribe

Mr. Jonas Grant, Director
Division of Natural Resources
Northern Ute Tribe

Mr. Norman Cambridge
BIA - Uintah & Ouray Agency

Mr. Gil Hunt
State of Utah Natural Resources
Division of Oil, Gas, and Mining

Mr. Jerry Kenczka
BLM - Vernal District Office

FCD: April 16, 1997, Chuck W., F:\DATA\WP\PETROGLF\MNRMD-21.03